

KNEE-PHENOMENON IN LOCOMOTOR ATAXIA— A CLINICAL CONTRIBUTION.

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THE following history would be more valuable if it covered a longer period of observation or were accompanied by the results of a post-mortem examination. But the case was seen in a town in the interior of Ohio, and will probably not be seen by me again. I therefore give it as I found it, on account of the interest attached to it, and the important inferences which, I believe, can be drawn from it.

H. C., aged forty. Railroad employee. Had a chancre twenty years since, which, so far as he knows, was not followed by any symptoms of constitutional syphilis. Has had occasional attacks of pain in left shoulder and arm for four years or longer. This pain is usually deep-seated, aching in character, sometimes lancinating, and continuing more or less constantly for days or weeks at a time. He thinks that, until a few months ago, he had suffered less with these pains during the last two years, than in the years just preceding them.

Four months previous to my seeing him he had an unusually severe attack of pain, and about the same time he noticed the first motor symptoms, weakness in left arm, especially in shoulder and elbow, and impaired gait. The motor disturbances, slight when first observed, have been pretty rapidly increasing. He has also had some difficulty in urination, and observed a sensation of numbness in the hands.

On examination of the patient there appears to be no involve-

ment of the cerebral nerves ; eyes are normal. Patient speaks of numbness in the hands, and an objective examination reveals decided diminution of cutaneous sensibility in that part. On the palmar surface of the fingers two points can only be detected when about two inches apart. At other parts impairment of sensibility can not be determined with certainty, though sensation seems to be more acute over the upper than the lower part of the trunk ; and, while there is no parasthesia anywhere, and sensation in the lower extremities seems unimpaired, yet the presence of the Brach-Romberg symptom makes it probable that, at least over the soles of the feet, sensation is also diminished.

There is a quite apparent atrophy of the muscles of the left upper extremity, most marked in the deltoid and muscles of the thumb. The circumference of arm above elbow is $\frac{3}{4}$ inch less on the left than on the right side. There is slightly marked the *main en Griffe* of Duchenne. The muscles everywhere responded to the faradic current, though far less vigorously than on the other side, the force of the contractions being perhaps proportionate to the amount of muscular tissue present. (I regret that I had not the means of testing muscles with constant current.)

There is almost complete paralysis of left hand and arm. He cannot move the arm at the shoulder, very slightly at the elbow, and there is a very feeble grasp. The paralysis seems to be greater than could be accounted for by the muscular atrophy.

Power in right arm and hand evidently diminished, though no decided paresis. Same is true of the lower extremities, though somewhat less in the left than in the right side.

The gait is quite ataxic ; but apart from the jerky, irregular steps, it is observed that the left foot sometimes drags on the floor.

There is also ataxia of movement in the right arm. On trying to touch a point, as the nose, finger vacillates, and succeeds with difficulty in reaching its aim.

The patellar tender reflex is well marked, perhaps excessive, on both sides, but a foot clonus can not be distinctly elicited.

Comments.—The statement has not infrequently been made that the patellar tendon reflex is sometimes retained in cases of locomotor ataxia. If such would prove to be a common occurrence, it would diminish the great significance attached to this sign in recent years. The case just reported

might be added to this list, and it is especially to consider it in this relation that it has been reported. The diagnosis—locomotor ataxia—had been made previous to my seeing it, a diagnosis which would doubtless have been made by the majority of physicians. Yet the rapid development of the disease, the degree and distribution of muscular atrophy and paralysis at so early a period, together with the insignificance of the sensory symptoms, rendered the correctness of such a diagnosis exceedingly doubtful. It is more probable that we have to do with a diffuse myelitis. At least, we can state that more than one system in the cord is affected, and if the disease be locomotor ataxia, its development different from the usual one. While usually the pathological changes begin in the lumbar region, and therefore the absence of the patellar tendon reflex is among the first symptoms, we need not hesitate to affirm that in our case the Burdach's columns in lumbar region are altogether, or almost altogether, intact.

I have given the case in detail with the hope of eliciting full histories in other instances where the patellar tendon reflex can be obtained in cases of locomotor ataxia. From my own experience, both as to the absence of this phenomenon and the character of ataxic cases in which I have found it present, I feel convinced that in all such cases the diagnosis will be at the best doubtful, or at least, the course of the disease an unusual one.

I have dwelt upon this point because it seems to me that we scarcely have a symptom or sign of disease of more positive diagnostic value, or which will more frequently throw light upon an obscure case.